



## PATENT ABSTRACTS OF JAPAN

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G21C 17/00**(21) Application number: **57057924**(71) Applicant: **TOSHIBA CORP**(22) Date of filing: **07.04.82**(72) Inventor: **OKADA SATOSHI**(54) **ULTRASONIC PENETRATING DEVICE**

display circuit 118.

(57) Abstract:

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**PURPOSE:** To allow a transducer having a wide beam to detect the presence of a small obstruct by a method wherein a reflected wave is sent to an image processing circuit through a gate circuit being opened depending on the time corresponding to the position of the transducer.

**CONSTITUTION:** A transducer position-gate time converter circuit 119 sends a gate time signal corresponding to the rotated position of an ultrasonic transducer 109 to a timing circuit 120. On the other hand, ultrasonic beams from the ultrasonic transducer 109 are made to reach an ultrasonic reflector 110 passing above a furnace core 102 before being reflected by each of the small reflectors 110A, 110B, 110C, 110D, 110E, 110F, 110G, 110H, 110I, 110J, 110K, 110L, 110M, 110N, 110O, 110P, 110Q, 110R, 110S, 110T, 110U, 110V, 110W, 110X, 110Y, 110Z with a time lag. The reflected waves together with the output of a position detection circuit 112 are inputted to an image processing circuit 117 through the ultrasonic transducer 109 a receiver 114, a gate circuit 115 being opened specified time later than excitation, and a peak detection circuit 116. The penetrated image in the core gap between the ultrasonic transducer 109 and the ultrasonic reflector 110 is displayed in an image

